



## Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact [support@jstor.org](mailto:support@jstor.org).

VI. — *Sentence and Word*

BY PROFESSOR LEONARD BLOOMFIELD

UNIVERSITY OF ILLINOIS

THE first task of the linguistic investigator is the analysis of a language into distinctive sounds, their variations, and the like. When he has completed this, he turns to the analysis of the semantic structure,—to what we call the morphology and syntax of the language, its grammatical system. The method generally pursued in this semantic analysis is admittedly a makeshift: we adhere to the process of synthetic description which has been developed out of the practice of the Alexandrine and Roman grammarians. Taking the single word as our unit, we name the big classes of words (parts of speech) and then describe the inflection of each; there follows a hasty survey of such matters as derivation and composition; finally we discuss the uses and interrelations of the various inflected words in the sentence (syntax).

This procedure is a makeshift, for it has long been recognized that the first and original datum of language is the sentence,—that the individual word is the product of a theoretical reflection which ought not to be taken for granted, and, further, that the grouping of derived and inflected words into paradigms, and the abstraction of roots, stems, affixes, or other formative processes, is again the result of an even more refined analysis. It needs but little scientific reflection to make us realize that the grammarian ought by no means to extract such products with magic suddenness, live and wriggling, out of the naïve speaker's hat. This has long been recognized. Wilhelm von Humboldt begins his discussion of polysynthetic languages (*Über die Verschiedenheit des menschlichen Sprachbaues*, I, paragraph 17) by saying: "Wenn man, wie es ursprünglich richtiger ist, da jede, noch so unvollständige Aussage in der Absicht des Sprechenden wirklich einen geschlossenen Gedanken ausmacht, vom Satze

ausgeht, so zerschlagen Sprachen, welche sich dieses Mittels bedienen, die Einheit des Satzes gar nicht, . . .” Increased psychologic understanding has only confirmed this great scholar’s intuition. Since we have learned to distinguish between an investigator’s logical analysis after the fact and the actual psychic occurrence, and to observe the latter without confusing it with such logical analysis, we find it obvious and easily proved that in most of our speaking we are conscious of the whole sentence only, not of the words into which it may be divided. The experiment is easily made: one asks a speaker to tell how many words he has used in the casual sentence just spoken. The answer, if it comes at all, will be surprisingly long in preparing,—and this with our ceaseless training, throughout our reading and writing, in this form of linguistic analysis. I need hardly refer to the fact, so well illustrated by Brugmann (*Grundriss*, II<sup>2</sup>, I, 1 ff.) that in some cases we do not even upon reflection succeed in making a division into words: shall a German write *Es kommt zu Stande* in two, three, or four words? Shall we write *in stead of* as two words or as three? *In as much as* in one, two, three, or four words? We have many instances of the writing of uneducated people (who lack the practice of copious reading) in which the word-division is entirely wrong. Hence we repeat to-day in more decided terms the quoted dictum of Humboldt, as when Brugmann says (*op. cit.* II<sup>2</sup>, I, 3): “In allem Übrigen (ausser der Semasiologie) hat eine streng wissenschaftliche d. h. auf die Natur des Objektes selbst gegründete Darstellung nicht vom Wort, sondern vom Satz auszugehen.”

Brugmann adds, however, that, for practical reasons, he retains the traditional manner of exposition. In doing so he is following a practice which, I believe, is universal. It is generally taken for granted by students of language that the traditional procedure, even if theoretically wrong, need not draw us into any errors: we shall go safely if we never, in a weak moment, make deductions which rest not upon the facts of the language, but merely upon the peculiarity of our method. I believe that we have not succeeded in avoiding

this pitfall,—that some of the current doctrine of linguistic science is a transference of our own process of analysis into our beliefs about the course of linguistic history, and, as our process of analysis is, admittedly, not in harmony with the facts of speech, but, in a sense, diametrically opposed to them, the transference may (and, I think, sometimes does) lead to false conclusions.

A bit of the older history of our science well illustrates what I mean. The personal verb-forms of the Indo-European languages were easily analyzed, as soon as people began to reflect upon such things, into personal endings attached to a stem (*e.g.* δίδω-μι δίδω-ς δίδω-σι, older and West Greek δίδω-τι). Proceeding from this analysis and taking for granted that it represented a historic synthesis, Bopp identified the personal endings with old forms of the personal pronouns. Similarly he saw in the *i*-suffix of the future and optative the root (itself, of course, the creature of a similiar analysis) of the verb *īre*. These theories were given up not only because Bopp's specific explanations were in conflict with the ascertained sound-developments of the languages concerned, but also because we realize that Bopp was inspired chiefly by the feeling that our analysis of forms is necessarily in accord with their historic origin,—and we know now that this feeling was wrong. When scholars to-day speculate upon the origin of the personal verb-inflection they turn rather to an adaptation-theory and suppose that the endings of these forms have come, more or less accidentally to their personal meaning; so, for instance, Hirt, *I.F.* xvii, 36. That is to say, the grammatical analysis of a given stage of a language must not lead us into thinking that the forms are the result of a corresponding conglutination.

Bopp's error is a thing of the past,<sup>1</sup> but if a genius like Bopp could fall into such an error, it is obvious that we, too, need the corrective of an occasional analysis in the psychologically justified direction, proceeding from the sentence, the

<sup>1</sup> The Editor reminds me of Professor Fay's articles; needless to say, I do not agree with their tendency. It is fair to add, however, that I know Fay's "Return to Bopp" only from the summary in *Idg. Jahrb.* II.

concrete datum, to the less and less explicit articulations in the sequence of speech.

A serious error that has outlived the agglutination theory is our definition of the sentence. The ancients, for whom grammar was an ancillary discipline of logic, necessarily looked upon the sentence as a combination built up out of words. Dionysios Thrax<sup>2</sup> defined the sentence as *πεξῆς λέξεως σύνθεσις, διάνοιαν αὐτοτελή δηλοῦσα*, Priscian<sup>3</sup> translated this: *Oratio est ordinatio dictionum congrua, sententiam perfectam demonstrans*. It is Wilhelm Wundt who, in his *Völkerpsychologie*, 1, 2, 234 ff., first showed that, when we understand the psychology of the thing, this definition is topsy-turvy: a sentence, says Wundt, is the linguistic expression of the voluntary analysis of a total experience into its parts, which then stand in logical relation to one another.

It has been objected that this definition does not distinguish a sentence from a word, such as *τρίπους*, which also involves an analysis of the total experience which it expresses. We are face to face, then, with the problem of distinguishing between the analysis made by a speaker who says *τρῆς πόδας ἔχον* and that made by one who says *τρίπους*,—between sentence and word. Meanwhile we cannot retain even Wundt's definition of the sentence, for it implies an articulation of the sentence into parts which we have no right to look upon as essential or universal. The assumption that every sentence must break up into two or more independent—and logically articulated!—components is rightly characterized by Kretschmer (in Gercke and Norden's *Einleitung in die Altertumswissenschaft*<sup>2</sup>, 1, 515 ff.) as a vestige of the old rationalizing view, according to which it was built up out of such components. Kretschmer defines the sentence as the linguistic expression of an affect,—that is, of an up-and-down of emotional volume and tension. Perhaps we should do better to say that the sentence is the linguistic expression of an affect involving a single total experience, for an affect of higher order may be accompanied by the

<sup>2</sup> Τέχνη, par. 11.

<sup>3</sup> *De Arte Gramm.* 11, 15.

utterance of a succession of sentences, each of which corresponds to a subordinate up-and-down movement of the emotional curve. What we most need is not, however, a definition of the sentence or of the word,—we have a very decided naïve feeling for these units,—but rather an understanding of the difference between a succession of words, such as *τρῆς πόδας ἔχον* and what we feel to be a single inflected, derived, or compounded word, such as *τρίπους*.

The phonetician, first of all, tells us that physical difference there is none. His ear tells him, and the difficulties of orthographic separation above referred to prove to him, that there are in an utterance no pauses to indicate its structure. We have the proof in ourselves whenever we hear people speaking a language which we do not understand, for it is then beyond our power to find the word-divisions. What is it, then, that enables us to analyze utterances into words and morphologic elements?

To begin with, it is not any reflection of the speaker's. Even people who have studied language and may be to an abnormal extent conscious of the facts of speech, utter many sentences every day without the least reflection upon their analysis. As a writer on logic puts it, we ought to write all our sentences with hyphens between the words; a phonetician would say that we ought not to indicate the word-division at all. The division of the sentence is not a reflective one; it is a matter of implication, and is due to the associational connections of the parts of the sound-sequence which constitutes the sentence,—as it were, to their connotation. A Latin sentence such as *exibant* is, like every sentence, primarily and so far as any logical reflection on the part of speaker or hearer may be concerned, a unit. The various parts of this sound-sequence, however, have been heard and uttered by the speaker (or the hearer) in other sentences and have, in these other earlier occurrences, always corresponded to an element of meaning which is present also in this new experience accompanying the sentence *exibant*. All these past occurrences of parts of the present sound-sequence exercise upon the latter the subtle force known to psychologists as

simultaneous association or fusion: they give them a tone of recognition which we, for our purposes, may speak of as their meaning. Thus the first part of the sound-sequence *exībant* owes its value to earlier utterances (heard and spoken from childhood on), such as *excessit*, *exēgit*, and the like; the next sound, to such as *abīrem*, *redīmus*, and the like; the next sound, *-b-*, has occurred also in numerous utterances, such as *regēbat*, *vidēbit*, *conābitur*, in all of which it corresponded to a vague notion of continuity of action, past or future; the *-a-* has occurred also in *regēbat*, *eram*, *fuerat*, parallel with a semantic element of past time; the *-nt*, finally, is one of the most familiar sound-successions in the language, and has been heard and spoken innumerable times in sentences that expressed an event in which more than one actor, including neither speaker nor hearer, performed an action or was the goal (object) of an action, e.g. *dolent*, *conantur*, *dēlectantur*, *exeunt*, and so on. Now, though all this dissection is far too clumsy to do justice to the intangible implication-values that are immediately and automatically involved in the speaking or hearing of the sentence *exībant*, yet we can be sure that the meaning of this sentence to a Latin was due to these very associations, for we know that in language the sentences which a speaker may utter are not confined to those which he has actually heard before, but may consist of entirely new combinations of the habitual speech-elements. A speaker of Latin who happened never to have heard the form *exībat* could use it, and use it without the slightest consciousness of innovation, since he had many times heard *exībant*, *amābat*, *amābant*, and so on. In other words, we may, very clumsily, indicate the associational values in the sentence *exībant* by dividing it into *ex-ī-b-a-nt*.

If, now, we take the corresponding English sentence, *ḍejwrgōwīḡāwt*, we find a similar associational habituation of the different parts of the sound-sequence. *ḍej* has occurred in *ḍejdanājdit*, *ḍejsēdsow*, and the like, where also there was a third person plural actor; *wr* in such expressions as *wjwrwējtīḡ*, *juwwrḡēr*, and so on; *gow* in *letsḡōw*, *downtḡōw*, and the like; *iḡ*, expressive of continued action, in *hijzrājtiḡ*,

*ajmwéjtiŋ*, and so on; *awt*, in value like the Latin *ex*-, in *komanáwt*, *hijrənáwt*, and many other utterances; and here, as in the Latin sentence, these parts are in ordinary speech by no means drawn into the focus of the attention or explicitly distinguished, but are rather, by the associative effect of their earlier occurrences, — one might almost say, mutely, — symbolic of the meaning. Their utterance in certain situations of experience, and the reproduction of a corresponding meaning whenever they are heard, is a matter of habit, not of explicit agreement or reflection.

There are, however, occasions when we utter such a sentence with a full and explicit insistence upon some one part of it, and thus show a consciousness of its division into parts and try, indeed, to arouse the same consciousness in the hearer. Suppose that an element of the situation is in doubt or in question, for instance, the identity of those who went out. Then we say *ǵej wrgowiŋawt*. Here it is no longer the mere implicit associational value of the sound-group *ǵej* that lends it meaning; our attention, like a vivid spotlight, focuses this part of the utterance, singling it out from the rest; and the hearer's attention, by the loud tone and other phonetic features, is drawn to it. We may similarly, if the time of the occurrence be in question, accent the *wr* and say *ǵej wr gowiŋawt*, and so on. One element, however, of those found by analysis to make up this sentence, we cannot so emphasize, namely the sound-group *iŋ*, expressive of continuity of action. Its associational value is clear, but apperceptive value it can never have: it never falls into the focus of the attention. Besides this habit of never clearly considering the element *iŋ*, we have another limiting its use: it is spoken after an element expressive of action, such as *gow* or *rajt*, to which it lends the meaning of continuity, and it never occurs in any other connections. This, moreover, is true of all the parts of the Latin sentence which we have examined, *exībant*.<sup>4</sup>

<sup>4</sup> The sound-group *ex*-, to be sure, does occur in other connections, such as *ex urbe venit*, but it has then a different value, expressing spatial relation with regard to an object, not direction of movement: it is then a preposition, not an adverb.



This is the difference between a formative element and a word, of course: both recur as the expression of a constant element of meaning, but the formative element is bound to certain positions with regard to the other elements, while the word may occur in all kinds of connections; and, above all: while both occur usually as associatively determined parts of a sentence, the word may be focused by the attention (clearly apperceived), while the formative element never rises to this explicit recognition.

It is a commonplace of psychology that, of these two forms of the structure of experience, the associative or passive, and the apperceptive or active, the former is the primary and usual one, the latter the more developed and rarer. The greater predominance of associational processes characterizes for us the mental habits of savages (sympathetic magic, and the like; cf., in connection with language, Lévy-Bruhl, *Les fonctions mentales dans les sociétés inférieures*, and Marrett, *Anthropology*; Jespersen's *Progress in Language* is, of course, familiar), the course of dreams, and morbid mental processes (Wundt, *Grundriss der Psychologie*). Opposed to all these, the higher phases of mental life, such as sane thinking or scientific reasoning, are characterized by the frequent and unhesitating resort, whenever the occasion demands, to apperceptive focusing of parts of an experience.

It would be strange if linguistic history, as the agglutination theory assumed, showed us a retrogressive development, — a development from forms of speech which allowed not only of associative but also of occasional apperceptive distinction, toward forms which moved only and always in the dim realm of associative reminiscence. As a matter of fact, linguistic history, wherever we know it, shows us progress in the direction from associative toward apperceptive structure. Where in Old English one said *gād út*, we express by a separate word both the actor and the tense: *ðej a:r gowiŋ awt*; where in Latin one said *Rōmam it* or *Rōmam vādīt*, one uses in French a separate word for the direction and another for the actor: *il va à Rome*.

The differences, in this respect, between Latin or Old

English and the modern languages are of interest because of the accessibility of the historic relation and all that it implies, but the structure of Latin or of Old English is not so widely different from that of our speech. If actor, action, and tense are there expressed in one word, we find in other languages not only these elements, but also objects, direct and indirect, and other features of the experience, all expressed without the possibility of a single apperceptive articulation, that is, in one word. Thus in the Fox language (Jones and Michelson, *Bulletin* 40, *U. S. Bureau of Ethnology*), *pyäté kwäwäwa*, 'He brings home a wife' (*pyäte* 'hither, home,' *kwäw* 'long hair, woman,' *ä* 'her,' *wa* 'he'), *nīmāwinAtutAmawāwa*, 'I shall go and ask him for it' (*nī* 'I, in future action,' *māwi* 'go,' *nAtut* 'ask,' *Amaw* 'it, as secondary object,' *ā* and *wa*, both referring to animate third person).

It is interesting to notice that the first and most important division which logical reflection has always demanded of the sentence, namely, that into subject and predicate, is one of the rarest, and, where we know the history, one of the latest, to receive a corresponding word-division in the sentence: in Latin, Greek, and Sanskrit subject and predicate are usually both expressed in the verb-form: in Slavic and most of the Romance languages both possibilities are open (Italian *canta* or *ella canta*, Polish *śpiewa* or *ona śpiewa*).

In our languages we have in some cases the choice between the two methods of expression, one by a single word and one by a succession of several words. Thus, we may speak of a *horse-tamer* or a *tamer of horses*. The former kind of expression obviously analyzes itself into the elements *horse* and *tamer*, and linguistic scholars, taking for granted that our analysis corresponds to the historic occurrence, are wont to assume that such compound words are the product of a coalescence of independent words. This assumption meets with a very significant difficulty: the farther back we go in tracing the history of our languages, the less resemblance do the parts of such compounds bear to the individual words from which it is supposed that they were derived. Thus in An-

cient Greek the parts of the word *ἵππóδαμος* differ from any independently occurring forms; *ἵππο-* differs from any actual form of *ἵππος*, and *-δαμός* 'tamer,' is a type of formation rarely found outside of compound words. Similarly, the *τρι-* of *τρίπους* does not occur as an independent word. Any one who reads Brugmann's section on noun-compounds (*Grundriss*, II<sup>2</sup>, I, 49 ff.) or the second volume of Wackernagel's monumental Sanskrit Grammar will be impressed by the endless deviations, exceeding all possibilities of accidental or secondary development, of composition-stems from independent words, *e.g.* Greek *κυδρός κυδιάνειρα, πατήρ ὄπατρος*. The most widespread of these deviations, the type of *ἵππος ἵππóδαμος*, is so obtrusive that it has given rise to the supplementary theory that these compounds go back to a time (postulated *ad hoc*) when uninflected stems were used as words, and used, the compounds compel one further to assume, in the value of any and every case-relation. So Brugmann (*Grundriss*, II<sup>2</sup>, I, 78); upon this theory Jacobi has built his speculations in *Compositum und Nebensatz*. Needless to say that the whole assumption that compound words are historically the result of a coalescence has no other support than the circumstance that we analyze them into elements more or less closely resembling single words, — exactly as Bopp analyzed out of the personal verb-forms certain elements more or less closely resembling personal pronouns. In neither case does the analysis justify a historical assumption. Quite on the contrary, the farther back we go into history, the less do the elements of compounds resemble single words: we have every reason to believe that the compound words of the Indo-European languages represent an older type of formation in which meanings that are now usually expressed in several words were still merged into one word whose divisions had only an associative identity, — a word comparable to the formations of the American languages. The possibility of breaking up the sentence into those smaller units which we are accustomed to look upon as corresponding to simple words was of later development, exactly as the possibility of separating actor from action in Latin or Germanic speech has developed in historic times.

The compound word remained in use where its meaning had undergone transference or specialization and differed, accordingly, from that of the now more favored collocation of simple words. This accounts for the persistence of such types as the so-called exocentric compounds, ὠκύπτερος 'having quick wings,' English *long-nose* 'one who has a long nose,' and, in general, for our habit of using compounds where we mean something more specific than what would be expressed by a collocation, *e.g.* *blue-bird*, as opposed to *blue bird*.

To recite the evidence for this view would be to tell the entire story of compound words in the Indo-European languages.<sup>5</sup> So much, however, is certain, that, here as elsewhere, the course of linguistic history has been from associational articulation of the utterance toward apperceptive structure; and that the grammarian's dissection of words, though of infinite practical value, must not mislead us into thinking that language is really a pasting together, by means of hyphens or a similar agency, of the elements which this dissection may reveal.

<sup>5</sup> An interesting task, which I have undertaken and hope some day to finish.